Case 2845

Taningia danae Joubin, 1931 (Mollusca, Cephalopoda): proposed precedence over *Taningia persica* (Naef, 1923)

Michael Vecchione

National Marine Fisheries Service, Systematics Laboratory, National Museum of Natural History, Washington, D.C. 20560, U.S.A.

Clyde F.E. Roper

Department of Invertebrate Zoology, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, U.S.A.

Abstract. The purpose of this application is to conserve the usage of the specific name of *Taningia danae* Joubin, 1931, a cosmopolitan large deep-sea squid which is a major food of sperm whales. A small paralarval specimen originally named as *Octopodoteuthis persica* Naef, 1923 certainly belongs to *Taningia* and probably to the only recognized species, *T. danae*; the name *persica* never has been used as valid.

---

1. The deep-sea squid *Taningia danae* was described by Joubin (1931, p. 181) based on a single small specimen (68 mm total length, about 40 mm mantle length) from the tropical eastern Atlantic. The species is almost cosmopolitan, and the total length may be over 2 m; most large specimens have been recovered from the stomachs of sperm whales (Roper & Vecchione, in press). While Joubin recognized the new species as belonging to the 'Octopodoteuthidae' (correctly OCTOPOTEUTHIDIDAE, but usually spelled OCTOPOTEUTHIDAE), he felt that the pair of large photophores on the tips of arms II were so distinctive as to warrant the erection of the new genus *Taningia*. The description and illustrations are quite detailed and comprehensive, and the holotype is deposited in the Zoologisk Museum, Copenhagen, where it has been examined by one of us (C.F.E.R.).

2. Some specimens reported as *Cucioteuthis unguiculata* (Molina, 1782) are most probably *Taningia danae*. Molina (p. 199) described his *Sepia unguiculata* from a 'cuttlefish' taken off Chile in 1769 on Cook's first voyage, and based it on Cook's description and a preserved arm. This nominal species was made the type of a genus *Cucioteuthus* (later emended to *Cucioteuthis*) by Steenstrup (1882, p. 153). All descriptions and illustrations of *C. unguiculata* lack any clear indication of the photophores at the arm tips which are characteristic of *T. danae*, and some reports may easily relate to large specimens of *Octopoteuthis* species. Specific and even generic identification of '*Cucioteuthis unguiculata*' cannot be made, and its names (which have not been used for many years) are best left as nomina dubia.

3. A nomenclatural problem exists from a name applied to a paralarval specimen. Chun (1910, p. 144) described a paralarva of 4.7 mm mantle length from the Gulf of Aden as the larva of an *Octopodoteuthis* (= *Octopoteuthis* Rüppell, 1844) species. He

stated that the arms bore only suckers and that especially noteworthy were the knoblike swellings at the tips of arms II. His figures (pl. 17, figs. 1, 2 and 10) clearly show these swellings, which are undoubtedly precursors of the photophores characteristic of *Taningia*.

4. Naef (1923, p. 337) recognized this as a species distinct from the known *Octopodoteuthis*, and erected the name *O. persica* based on Chun's description and figures. No additional specimens have been assigned to *O. persica* and we have been able to find only four mentions of the name. Clarke (1966, p. 187) noted that *O. persica* was based on a larval form and speculated that it might prove synonymous with *O. sicula*. Young (1972, p. 41) stated: 'The specimen shows distinct swellings near the tips of arms II and extremely broad fins. Both features are strongly suggestive of the genus *Taningia*, and I think it safe to transfer this species from *Octopoteuthis* to *Taningia*'. In effect Young proposed the new combination *Taningia persica* (Naef, 1923) but he was misquoted by Clarke (1980, p. 162) and Stephen (1985, p. 110). Clarke stated that 'Young may be correct in considering that *O. persica* is probably a young *Taningia danae*', while Stephen said that Young 'considered *Octopoteuthis persica* and *O. indica* to be nomina dubia because their small size precluded accurate identification. He also believed that *O. persica* was really the young of *Taningia danae*...'.

5. An extensive review of specimens and literature (Roper & Vecchione, in press) leads us to conclude that *Taningia* should remain monospecific. Because *O. persica* clearly belongs to *Taningia*, the name *persica* Naef, 1923 has priority over *danae* Joubin, 1931. However, *persica* never has been used as valid, whereas *danae* is widely and continuously used (e.g. Clarke, 1967, 1980, 1983; Zeidler, 1981; Roper, Sweeney & Clarke, 1985; Nesis, 1987; Okutani & Tsukada, 1988; Fiscus, Rice & Wolman, 1989. The Commission Secretariat has a list of 29 further references). Consequently, we feel that *danae* should have precedence over *persica*; because *T. persica* is based on a single paralarval specimen the possibility remains that it represents a distinct species, and if this is verified in the future the name could then be used.

6. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to rule that the name *danae* Joubin, 1931, as published in the binomen *Taningia danae*, is to be given precedence over the name *persica* Naef, 1923, as published in the binomen *Octopodoteuthis persica*, whenever the two names are considered to be synonyms;

(2) to place on the Official List of Generic Names in Zoology the name *Taningia* Joubin, 1931 (gender: feminine), type species by monotypy *Taningia danae* Joubin, 1931;

(3) to place on the Official List of Specific Names in Zoology the following names:

  (a) *danae* Joubin, 1931, as published in the binomen *Taningia danae* (specific name of the type species of *Taningia* Joubin, 1931), with the endorsement that it is to be given precedence over the name *persica* Naef, 1923, as published in the binomen *Octopodoteuthis persica*, whenever the two names are considered to be synonyms;

  (b) *persica* Naef, 1923, as published in the binomen *Octopodoteuthis persica*, with the endorsement that it is not to be given priority over the name *danae* Joubin, 1931, as published in the binomen *Taningia danae*, whenever the two names are considered to be synonyms.

References

Chun, C. 1910. Die Cephalopoden. 1. Teil: Oegopsida. *Wissenschaftliche Ergebnisse der Deutschen Tiefsee-Expedition auf der Dampfer 'Valdivia' 1898-1899.* 402 pp. (text), 66 pls. (atlas). Fischer, Jena.

Clarke, M.R. 1966. A review of the systematics and ecology of oceanic squids. *Advances in Marine Biology*, **4**: 91–300.

Clarke, M.R. 1967. A deep-sea squid, *Taningia danae* Joubin, 1931. *Symposia of the Zoological Society of London*, **19**: 127–143.

Clarke, M.R. 1980. Cephalopods in the diet of sperm whales of the southern hemisphere and their bearing on sperm whale biology. *Discovery Report*, **37**: 1–324.

Clarke, M.R. 1983. Cephalopod biomass — estimation from predation. *Memoirs of the National Museum of Victoria*, **44**: 95–107.

Fiscus, C.H., Rice, D.W. & Wolman, A.A. 1989. Cephalopods from the stomachs of sperm whales taken off California. *NOAA Technical Report NMFS*, **83**: 1–12.

Joubin, L. 1931. Notes préliminaires sur les céphalopodes de croisières du Dana (1921-1922). 3e Partie. *Annales de l'Institut Océanographique*, **10**: 169–211.

Molina, G.I. 1782. *Saggio sulla storie naturale del Chili.* 367 pp. Tommaso d'Aquino, Bologna.

Naef, A. 1923. Die Cephalopoden. *Fauna e Flora del Golfo di Napoli*, **35**(1,1): 149–863.

Nesis, K.N. 1987. *Cephalopods of the world; squids, cuttlefishes, and allies.* 351 pp. T.F.H. Publications, Neptune, New Jersey. [English translation.]

Okutani, T. & Tsukada, S. 1988. Squids eaten by lancetfish and tunas in the tropical Indo-Pacific Oceans. *Journal of the Tokyo University School of Fisheries*, **75**: 1–44.

Roper, C.F.E., Sweeney, M.J. & Clarke, M.R. 1985. Cephalopoda. Pp. 117–205 *in* Fischer, W. & Hureau, J.C. (Eds.), *FAO species identification sheets for fishery purposes. Southern Ocean (Fishing Areas 48, 58, and 88) (CCAMLR Convention area).* 232 pp. Commission for the Conservation of Antarctic Living Resources, FAO, Rome.

Roper, C.F.E. & Vecchione, M. (In press). A geographic and taxonomic review of *Taningia danae* Joubin, 1931 (Cephalopoda: Octopoteuthidae), with new records and observations on bioluminescence. *Bulletin of the Tokai Regional Fisheries Research Laboratory.*

Steenstrup, J. 1882. Notae Teuthologicae. *Oversigt over det Kongelige Danske Videnskabernes Selskabs Forhandlinger*, **1882**: 143–168.

Stephen, S. 1985. *The systematics of the pelagic squid genus* Octopoteuthis *Rüppell, 1844 (Cephalopoda; Teuthoidea) with emphasis on species in the North Atlantic.* 205 pp. Unpublished M.S. Thesis, Memorial University of Newfoundland, St John's.

Young, R.E. 1972. The systematics and areal distribution of pelagic cephalopods from the seas off southern California. *Smithsonian Contributions to Zoology*, **97**: 1–159.

Zeidler, W. 1981. A giant deep-sea squid, *Taningia* sp., from South Australian waters. *Transactions of the Royal Society of South Australia*, **105**: 218.